

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Martin E. **BANTON** **GROUP:** 2609

APPLICATION: 10/717,824 **EXAMINER:** A. Woldemariam

FILED: November 20, 2003 **CONFIRMATION:** 8574

**FOR: METHOD FOR DESIGNING NEARLY CIRCULARLY
SYMMETRIC DESCREENING FILTERS THAT CAN BE
EFFICIENTLY IMPLEMENTED IN VLIW (VERY LONG
INSTRUCTION WORD) MEDIA PROCESSORS**

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

INTERVIEW SUMMARY

A telephonic interview was held on February 13, 2008 with Examiner Woldemariam, during which time, the undersigned and the Examiner discussed the prematurity of the finality of the Office Action, dated October 18, 2007, and the language of independent claim 1.

During the telephonic interview of October 13, 2008, Examiner Woldemariam indicated that the claim language describing the claimed vector. During the telephonic interview, the undersigned and Examiner Woldemariam agreed to amendments to claim 1 to clarify the claim language describing the claimed vector.

It was agreed that independent claim 1 is to be amended as follows:

Claim 1 (Interview Agreed upon Amendments) A method for descreening a digital image comprising:

(a) selecting a cut-off frequency and designing therefrom a one-dimensional separable low pass filter (LP), one-dimensional separable low pass filter LP being a row vector having entries $[Zx_{-n}, Zx_{-(n-1)}, \dots, Zx_0, \dots, Zx_{n-1}, Zx_n]$, wherein n is an integer;

(b) obtaining a two-dimensional separable filter (LPP) by performing the operation: $LP^* \times LP$, LP^* being a column vector having the same entries as one-dimensional separable low pass filter LP, two-dimensional separable filter LPP having dimensions given by: $\{2n+1, 2n+1\}$;

(c) generating a two-dimensional contour plot for the two-dimensional filter LPP;

(d) designing a one-dimensional separable high pass filter (HP), one-dimensional separable high pass filter HP being a row vector having entries $[Y_{-m}, Y_{-(m-1)}, \dots, Y_0, \dots, Y_{m-1}, Y_m]$, wherein m is an integer;

(e) obtaining a two-dimensional separable filter (HPP) by performing the operation: $HP^* \times HP$, HP^* being a column vector having the same entries as one-dimensional separable high pass filter HP, two-dimensional separable filter HPP having dimensions: $\{2m+1, 2m+1\}$;

(f) generating a two-dimensional contour plot for the two-dimensional filter HPP;

(g) generating a two-dimensional filter (ONE) when the two-dimensional contour plot for the two-dimensional separable filter LPP overlaps the two-dimensional contour plot for the two-dimensional separable filter HPP, two-dimensional filter ONE having the same dimensions of two-dimensional separable filter HPP with the only non-zero entry of value 1 being located at the center of two-dimensional filter ONE;

(h) subtracting two-dimensional separable filter HPP from two-dimensional filter ONE to create matrix (HPPinv);

(i) convolving two-dimensional separable filter LPP with matrix HPPinv to obtain non-separable filter DSCRN having dimensions: $\{2m+2n+1, 2m+2n+1\}$;

(j) generating a two-dimensional contour plot for non-separable filter DSCRN;

(k) selecting two-dimensional separable filter LLP and two-dimensional separable filter HHP when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry;

(l) repeating (a)-(j) when the two-dimensional contour plot for non-separable filter DSCRN is not an approximation to a desired circular symmetry;

(m) electronically applying the selected two-dimensional separable filter LLP to a digital image to produce a first filtered image;

(n) electronically applying the selected two-dimensional separable filter HHP to a digital image to produce a second filtered image; and

(o) subtracting the second filtered image from the first filtered image to generate a descreened digital image.

Moreover, Examiner Woldemariam further indicated that the rejections under 35 U.S.C. §101, 35 U.S.C. §112, and 35 U.S.C. §103 had been overcome by the Response of January 8, 2008.

Respectfully submitted,



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